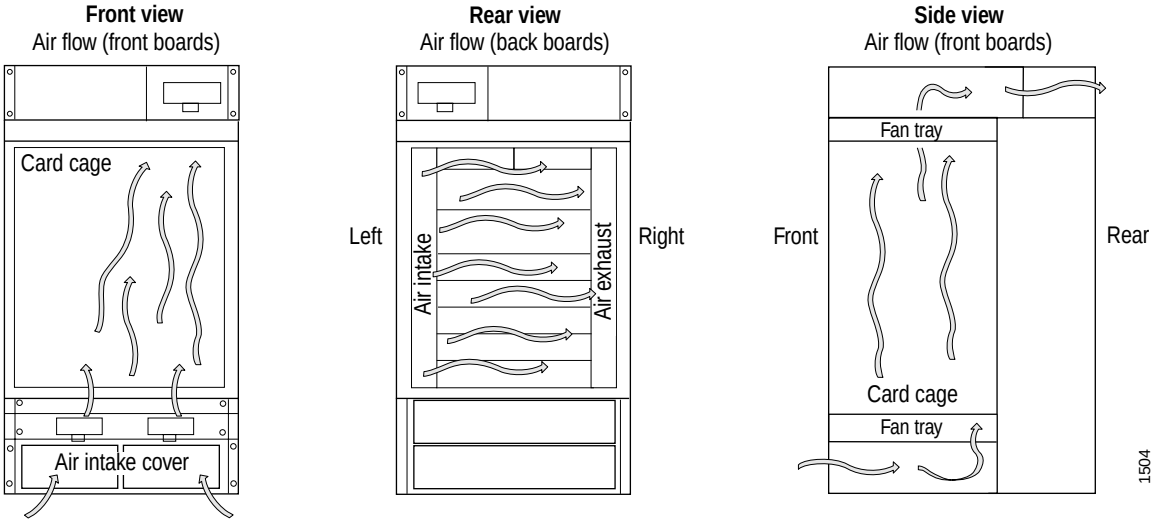
Chapter 21

Troubleshoot the Cooling System

The routing node cooling system comprises two front and one rear fan tray (see Figure). The front fan trays each contain six fans and are interchangeable. The rear fan tray contains five fans and is not interchangeable with the front trays.

Air filters for both the front and rear fan trays help keep dust and other particles from entering the cooling system. To function properly, the entire cooling system requires an unobstructed air flow and proper clearance around the site, as described in “Prepare the Site” on page 49.

Figure 97: Air Flow through the Chassis



A pair of fan trays in the front of the chassis, each with six fans, cools the components installed in the FPC card cage (the FPCs, PICs, CIP, and midplane). A single fan tray in the rear of the chassis cools the components installed in the rear card cage (the Routing Engines, CBs, PCGs, and the SIBs). The power supplies each have a fan that cools that power supply.

During normal operation, the fans in each fan tray function at less than full capacity. Temperature sensors on the midplane and the host subsystem control the speed of the fans. A fan failure triggers the red alarm LED on the craft interface. If the temperature passes a certain threshold, the JUNOS software turns off the power supplies.

To troubleshoot the fans, follow these guidelines:

If the red alarm LED on the craft interface lights, find the source of the problem by looking at the display on the craft interface. The number of alarm conditions, as well as the source of each alarm, appears on the screen.

Use the CLI to check the status of the fans. For example, you can use the following command to get information about the source of an alarm condition:

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user@host> show chassis alarms
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Place your hand near the exhaust vent at the upper rear of the chassis to determine whether the fans are pushing air out of the chassis.

If the amber OVER TEMP LED on one or both of the power supplies lights, check the power supply fans to see if they are operating.

If both power supplies have failed, the system temperature might have exceeded the threshold, causing the system to shut down.

If the display on the craft interface lists only one fan failure and the other fans are functioning normally, the fan is probably faulty and you need to replace the fan tray, as described in “Maintain and Replace Cooling System Components” on page 155.